

The goal of these hands-on exercises is to reinforce the concepts taught in the online tutorial, using simple examples, and to familiarize users with our website so they will know where to find each of the products. For each exercise, please follow along, starting from the main page of the NOAA Coral Reef Watch website: <http://coralreefwatch.noaa.gov/satellite/>.

Sea Surface Temperature (SST) product exercises

1. What was the temperature around the Galapagos Islands on March 4, 2006?

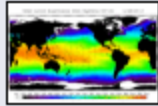
a. On the front page of the CRW website, look for the blue navigation bar on the left-hand side. Each of the operational products is listed here: images and animations for the global products, plus Virtual Stations data products.

b. Click on the fourth product in this navigation bar: **Sea Surface Temperature**.



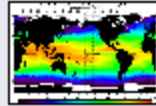
c. This takes you to this year's page for the Sea Surface Temperature (SST) product. The image at the top will show the latest global SST, and the table underneath links to archived images for the current year. Click on **Image Archives**.

Data Formats Available



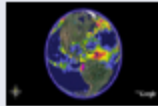
[Image Archives](#)

Regional imagery and image archives from OSDPD.



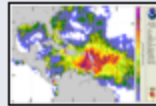
[Animations](#)

Data animations and downloadable animated GIF files from OSDPD.



[Google Earth](#)

All of our satellite data products are available on Google Earth.



[HDF data files](#)

Raw data in Hierarchical Data Format (HDF), with free NOAA viewing software.



[Virtual Stations](#)

Imagery, graphs, ASCII data, and e-mail alerts for reef pixels around the world.

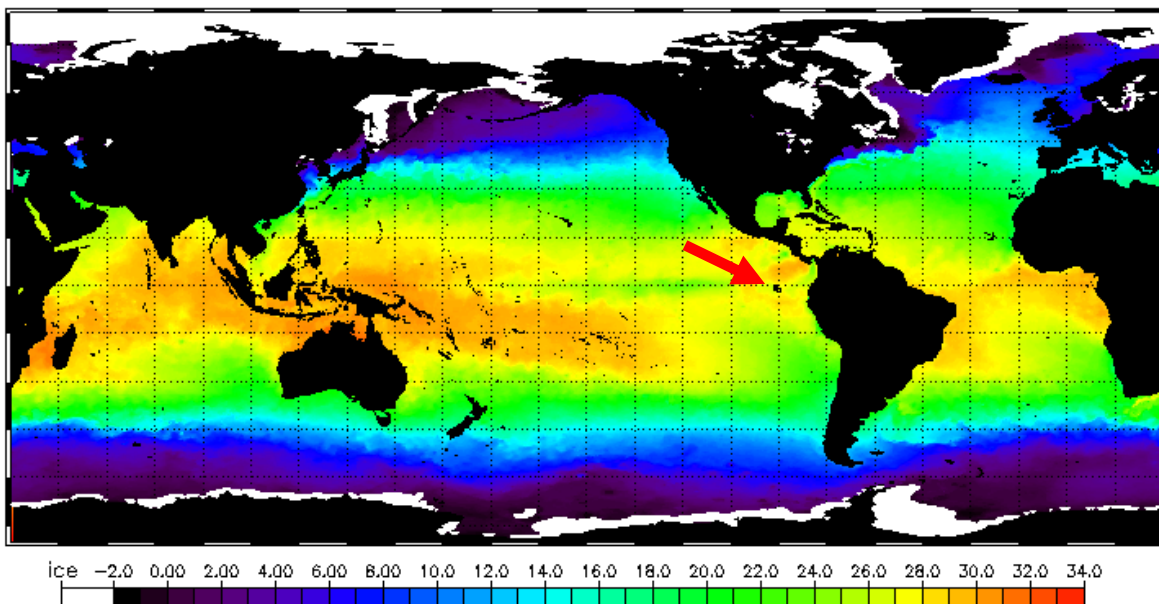
d. Scroll down this page, until you get to the bottom of the archive table. You will see links to previous years; click on **2006 50km Nighttime SSTs** to navigate to that year.

- | | | | |
|---|---|---|---|
| 2012 50 km Nighttime SSTs | 2011 50 km Nighttime SSTs | 2010 50 km Nighttime SSTs | 2009 50 km Nighttime SSTs |
| 2008 50 km Nighttime SSTs | 2007 50 km Nighttime SSTs | 2006 50 km Nighttime SSTs | 2005 50 km Nighttime SSTs |
| 2004 50 km Nighttime SSTs | 2003 50 km Nighttime SSTs | 2002 50 km Nighttime SSTs | 2001 50 km Nighttime SSTs |

e. Here you will see links to the global images, two per week for the whole year. Find the link for **March 4**, and click to access the global image. Locate the Galapagos Islands, off the west coast of South America.

NOAA Current Experimental 50km Nighttime SST (C)

3/4/2006



f. Using the color bar at the bottom of the image, determine the sea surface temperature in the pixels closest to the Galapagos Islands. (Look at Answer #1 on the answer sheet to see if you got it right!)

2. Which summer was hotter in the US Virgin Islands: 2004 or 2005? Look at the entire summer season, not just the maximum temperature.

a. Return to the homepage and click **Virtual Stations**; then click on “All stations and products”.

Near-Real-Time Data

[Bleaching Alert Area](#)

[Degree Heating Weeks](#)


[HotSpots](#)

[Sea Surface Temperature](#)

[SST Anomaly](#)

[Virtual Stations](#)

Operational Virtual Stations System (227 Stations)



[All stations and products](#)
Virtual Stations list, with links to time series graphs and data.

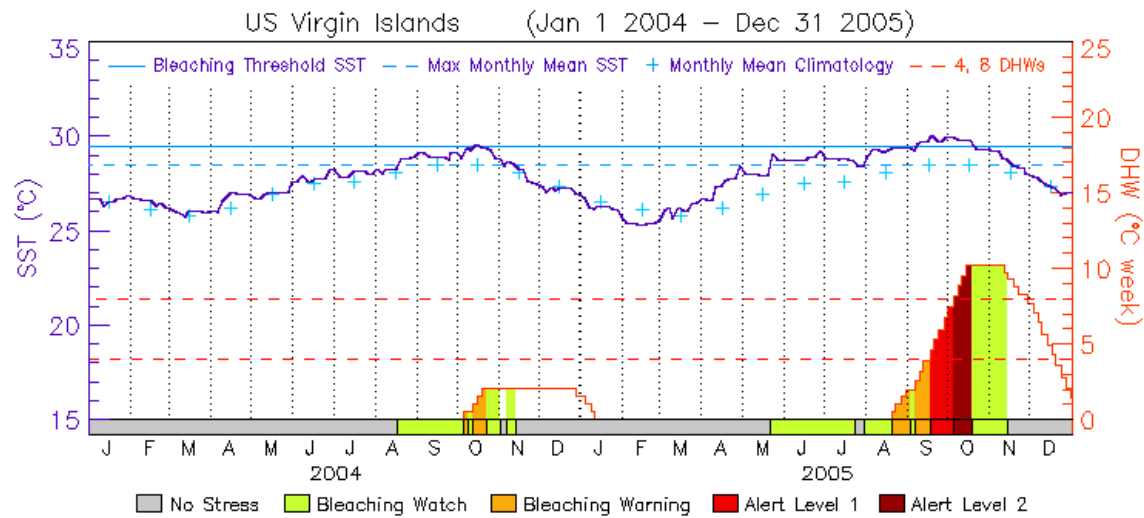
[Regional Pages](#)
Access to the Google Maps page zoomed in to regions of interest.

[Current Status Summary](#)
Text file that lists the current alerts and thermal stress status for all Virtual Stations.

[Station Locations](#)
Text file that gives the latitude and longitude of each station.

b. This takes you to a page that lists our 227 Virtual Station sites around the world. Find the cell in the table that says **US Virgin Islands**.

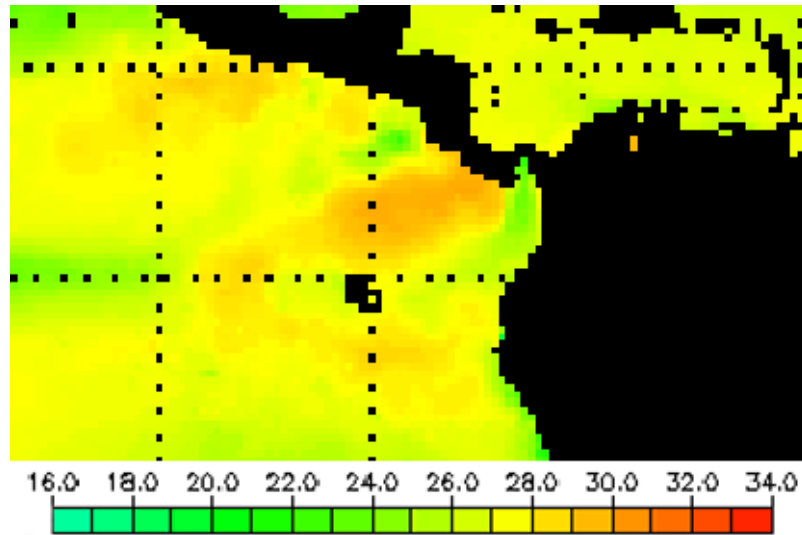
United States Virgin Islands	21.0	-75.0	multi-year	current	12-13	10-11	08-09	06-07	04-05	02-03	00-01	data
Puerto Rico	18.0	-67.5	multi-year	current	12-13	10-11	08-09	06-07	04-05	02-03	00-01	data
San Bernardo, Colombia	10.0	-76.0	multi-year	current	12-13	10-11	08-09	06-07	04-05	02-03	00-01	data
Santa Marta, Colombia	11.5	-74.5	multi-year	current	12-13	10-11	08-09	06-07	04-05	02-03	00-01	data
Turks and Caicos	21.5	-72.0	multi-year	current	12-13	10-11	08-09	06-07	04-05	02-03	00-01	data
US Virgin Islands	18.0	-65.0	multi-year	current	12-13	10-11	08-09	06-07	04-05	02-03	00-01	data



Remember that the dark-blue line shows the sea surface temperature from NOAA satellites. Which year had the warmer summer? (*See #2 on the answer sheet.*)

SST PRODUCT ANSWER SHEET

1. The pixels closest to the Galapagos are pale green to yellow, which indicates temperatures around 27°C.



2. The summer of 2005 was consistently above average throughout the spring and summer – definitely warmer than 2004. In fact, there was significant coral bleaching in the US Virgin Islands in late summer 2005.

